1. A process for producing quadricyclane, the process comprising:

providing a solution comprising norbornadiene;

and

irradiating said solution with light filtered through a sharp cut-off filter, whereby said norbornadiene is converted to quadricyclane.

2. The process of claim 1 further comprising adding a substituted diaminobenzophenone to said norbornadiene to the solution prior to irradiating said solution, said substituted diaminobenzophenone having a solubility in norbornadiene greater than the solubility of Michler's Ketone in norbornadiene.

3. The process of claim 2 wherein said substituted diaminobenzophenone is selected from the group consisting of Ethyl Michler's Ketone, 4,4'-bis(dipropylamino)benzophenone, 4,4'-bis(dibutylamino)benzophenone, 4,4'-bis(methylethylamino)benzophenone, 4,4'-bis(t-butyl-methylamino)benzophenone, and a combination thereof.

4. The process of claim 3 wherein wherein said substituted diaminobenzophenone is Ethyl Michler's Ketone, added to said norbornadiene in the range of about 0.2% to about 3.86% by weight.

5. The process of claim 1 wherein said solution is irradiated with a metal halide-doped mercury arc lamp.

6. The process of claim 1 wherein said solution is irradiated with an iron halide-doped mercury arc lamp.

7. The process of claim 1 further comprising adding a base to said solution prior to irradiating said solution, said base reducing the formation of by-products during said conversion.

8. The process of claim 7 wherein said base is a trialkylamine.

9. The process of claim 1 wherein said solution is irradiated with a lamp having enhanced output in the wavelength range of about 250 nm to about 400 nm.

10. The process of claim 1 wherein said solution is irradiated with a lamp having enhanced output in the wavelength range of 340 nm to 390 nm.

11. The process of claim 1 further comprising regulating the temperature of said solution between about -40°C and about 60°C.

12. The process of claim 1 further comprising regulating the temperature of said solution between about -10°C and about 30°C.

13. The process of claim 1 further comprising regulating the temperature of said solution at about 0°C.

14. The process of claim 1 wherein said sharp cut-off filter is one of a WG220, a WG280, a WG295, a WG305, and a WG320 filter.

15. The process of claim 1 wherein said sharp cut-off filter has a thickness in the range from about 0.5 mm to about 10 mm.

16. Quadricyclane formed by the process of claim 1.

17. A process for the production of quadricyclane, the process comprising:

providing purified norbornadiene;

adding Ethyl Michler's Ketone to said norbornadiene in the range of about 0.2% to about 3.86% by weight to form a solution; and

irradiating said solution with light emitted from an iron halide-doped mercury arc lamp and filtered through a filter to have an enhanced output in the range of about 340 nm to about 390 nm, wherein said norbornadiene is converted to quadricyclane.

18. The process of claim 17 further comprising adding triethylamine to said solution to reduce the formation of by-products during the conversion.

19. The process of claim 17 further comprising regulating the temperature of said solution at about 0°C.

20. The process of claim 17 wherein said light is filtered through a borosilicate glass having a thickness in the range from about 0.5 mm to about 10 mm.

21. The process of claim 17 wherein said light is filtered through a sharp cut-off filter selected from the group consisting of a WG220, a WG280, a WG295, a WG305, and a WG320 filter.

22. The process of claim 21 wherein said sharp cut-off filter has a thickness in the range from about 0.5 mm to about 10 mm.

23. Quadricyclane formed by the process of claim 17.

24. A process of driving a solution-phase photochemical transformation, the process comprising:

providing a solution having the potential for a solution-phase photochemical transformation; and

irradiating said solution with light emitted from a metal-halide doped mercury arc lamp and filtered through a sharp cut-off filter to drive a solution-phase photochemical transformation within said solution.

25. The process of claim 24 wherein said solution is irradiated with a metal halide-doped mercury arc lamp.

26. The process of claim 24 wherein said solution is irradiated with an iron halide-doped mercury arc lamp having an enhanced output in the range of about 340 nm to about 390 nm.

27. The process of claim 24 further comprising, prior to irradiating said solution, adding a diaminobenzophenone sensitizer to said solution, said sensitizer having a solubility in said solution greater than Michler's Ketone.

28. The process of claim 24 further comprising, prior to irradiating said solution, adding a base to said solution.

29. The process of claim 24 wherein said base is a trialkylamine.

30. The product formed by the process of claim 24.